MOTILAL OSWAL

ECOSCOPE
The Economy Observer

Has demonetization led to higher digital payments?

Doubtful; ATM cash withdrawals back to pre-demonetization levels

- **One of the key structural benefits expected from the historic demonetization announced in November 2016 was a shift towards digital payments. However, the aggregate value of all transactions under electronic payment systems (EPS) has failed to witness significant increase even six months post demonetization.**
- **Further, while the value of transactions in retail digital modes (PoS, PPIs, IMPS and UPI) increased sharply in December 2016, it has stabilized at higher levels since then (up to May 2017). Similarly, while the volume of retail digital transactions doubled by December 2016, there are no new net additions since then.**
- **Finally, after falling by more than 60% in the last months of 2016, cash withdrawals from ATMs have moved back to pre-demonetization levels. All these data points raise doubts over the desired structural shift towards digital payments post demonetization.**

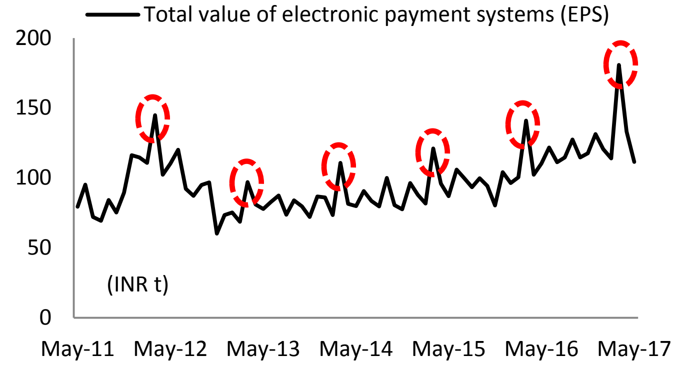
Demonetization was seen as a boost to digital payments, since ~90% of transactions were believed to be taking place in 'cash'. Eventually, digitalization was expected to help reduce tax evasion and corruption. However, available/estimated data up to May 2017 raises doubts over the increased digitalization in the economy.

The total value of all transactions under EPS (electronic payment system) has been broadly unchanged since demonetization, barring a seasonal spike in March 2017

What do the aggregate numbers tell us?

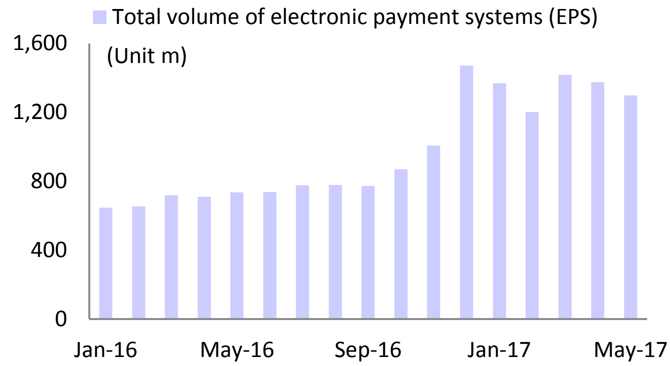
One of the crudest ways to find out if digitalization has increased is to analyze the aggregate value of transactions under electronic payments system (EPS) released on weekly/monthly basis by the Reserve Bank of India (RBI). The total value of transactions under EPS [consisting of eight (8) modes: Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT), Cheque Truncation System (CTS), Immediate Payment Service (IMPS), National Automated Clearing House (NACH), Unified Payments Interface (UPI), Debit/Credit Cards at Points of Sale (POS), and Prepaid Payment Instruments (PPIs)) has been broadly unchanged since demonetization *(Exhibit 1)*. The spike in March 2017 could be explained as seasonal. However, the volume of transactions has witnessed a durable increase *(Exhibit 2)*, implying a significant fall in the value per transaction.

Exhibit 1: Aggregate value of all digital payment transactions didn't witness any increase post demonetization…



Combined value of POS, PPIs, IMPS, RTGS, NEFT, UPI, CTS and NACH

Exhibit 2: … however, total volume of digital payments has stabilized at higher level



Source: Reserve Bank of India (RBI), CEIC, MoSL

Nikhil Gupta (Nikhil.Gupta@MotilalOswal.com); +91 22 3982 5405
Madhurima Chowdhury (Madhurima.Chowdhury@motilaloswal.com)

Exhibit 3: Value of total transactions using various digital channels (INR b)

INRb	RTGS	NEFT	CTS	IMPS	NACH	POS[1,2]	PPIs[1]	UPI	Total
Jan-16	82,660	7,087	5,546	166	441	358	49	n/a	96,306
Feb-16	86,728	7,279	5,601	170	384	336	50	n/a	100,546
Mar-16	122,784	10,226	6,929	199	555	362	57	n/a	141,111
Apr-16	86,459	8,325	6,258	210	585	375	47	n/a	102,259
May-16	95,526	7,733	5,785	216	570	405	50	n/a	110,285
Jun-16	106,101	8,815	5,734	237	557	395	53	n/a	121,893
Jul-16	96,016	8,145	5,717	251	634	414	53	n/a	111,231
Aug-16	98,592	8,764	5,925	268	682	441	56	n/a	114,728
Sep-16	110,564	9,880	5,737	289	590	401	56	n/a	127,518
Oct-16	97,554	9,505	5,974	344	768	519	60	n/a	114,724
Nov-16	101,894	8,808	5,419	325	675	587	51	1	117,761
Dec-16	11,0980	11,538	6,812	432	699	892	98	7	131,458
Jan-17	100,603	11,355	6,618	491	601	817	110	17	120,612
Feb-17	95,267	10,878	5,994	482	654	645	96	19	114,035
Mar-17	154,095	16,295	8,063	565	899	691	107	24	180,738
Apr-17	111,744	12,156	6,991	562	972	706	104	22	133,256
May-17[1]	90,171	12,411	6,746	586	744	751	115	28	111,551

[1] Extrapolated RBI's representative data

[2] Debit + Credit cards usage at POS machines; RTGS = Real Time Gross Settlement; NEFT = National Electronic Funds Transfer; CTS = Cheque Truncation System; IMPS = Immediate Payment Services; NACH = National Automated Clearing House; POS = Point Of Sale; PPI = Prepaid payment instrument; UPI = Unified payment instrument

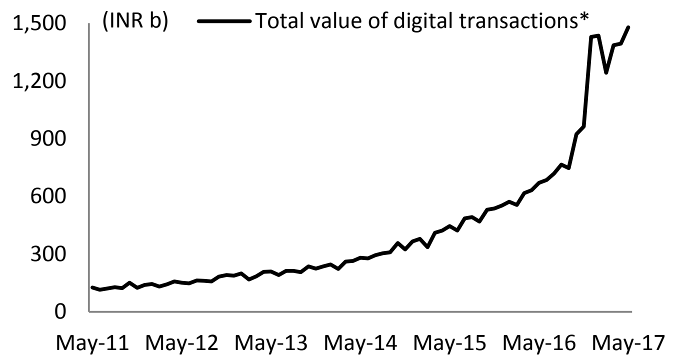
Source: Reserve Bank of India (RBI), CEIC, Compiled by MoSL

Value of digital retail transactions# has stabilized at higher level…

The aggregate value of consumer digital transactions has been broadly unchanged in the past six months

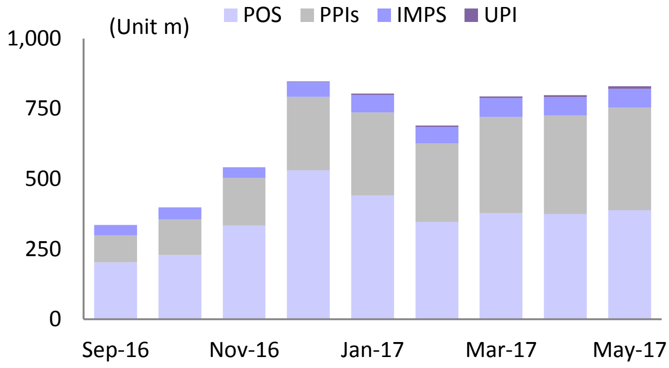
The total value of digital retail transactions (from four modes –POS, PPIs, IMPS and UPI) increased from less than INR500b in mid-2015 to ~INR750b by August 2016 – implying a growth of more than 50% *(Exhibit 4)*. With high-value note ban in November 2016, retail digital transactions got a one-time boost in December 2016 and crossed INR1,400b. However, the aggregate value of transactions has stagnated since then, with total value at INR1,479b in May 2017 *(Exhibit 5)*.

Exhibit 4: Retail digital payments got a one-time exceptional boost immediately post demonetization…



* Aggregate value of POS, PPIs, IMPS and UPI

Exhibit 5: … however, total value has stabilized at higher level since then



Source: Reserve Bank of India (RBI), CEIC, MoSL

…and the volume has stagnated after doubling by December 2016

With cash crunch easing post-December 2016, there has not been any net addition to total volume of transactions on country-wide basis

Similarly, total number of transactions (txn) almost trebled from 300m in mid-2016 to its peak of 847m in December 2016. In May 2017, total transactions are estimated to be 830m *(Exhibit 6)*. It implies that with cash crunch easing post-December 2016, there has not been any net addition to total volume of transactions on country-wide basis.

A look at the four modes of digital transactions covered in this study reveals that PPIs (including mobile wallets such as Paytm, MobiKwik, etc) have witnessed the highest growth in business *(Exhibit 6)*. While POS and IMPS transactions increased 70% and 58% since November 2016, PPI transactions increased by ~190%. In other words, PPI transactions, which were less than half of POS transactions pre-demonetization, were 94% of POS transactions in April-May 2017.

Exhibit 6: Total number of transactions struggling to increase above 850m…

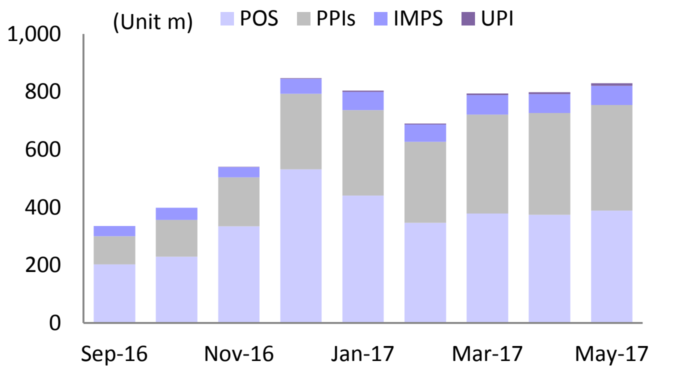
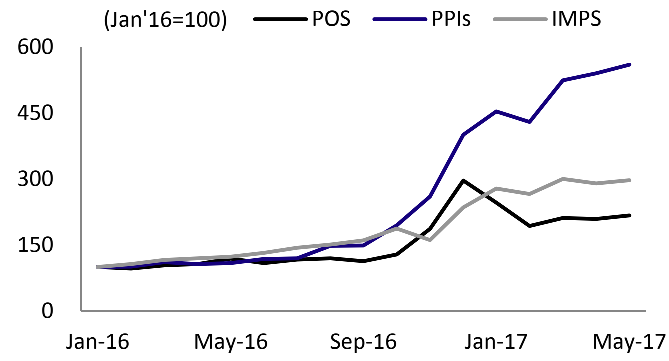


Exhibit 7: …however, PPIs have seen their business growing multi-fold



Source: RBI, MoSL

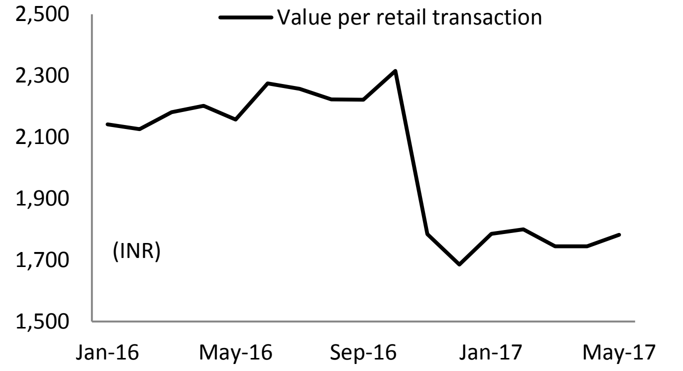
All other modes such as RTGS, NEFT, CTS and NACH include corporate/interbank transactions rather than retail transactions

Value per transaction also stable at lower level

PPIs received a huge boost because of small-value transactions. While PPI transactions were 94% of POS transactions, the value of PPI transactions was only 15% of the value of POS transactions in 2017 – not significantly different from pre-demonetization period. Not surprisingly then, the value per transaction for PPIs almost halved from INR600/txn in the pre-demonetization period to about INR300/txn now. On the other hand, while the value/txn for cards usage (at POS) was broadly unchanged, it increased marginally for IMPS. On aggregate basis, the value/txn has fallen from INR2,200 in the pre-demonetization to about INR1,800/txn during demonetization and has stayed there in 2017 *(Exhibit 8)*.

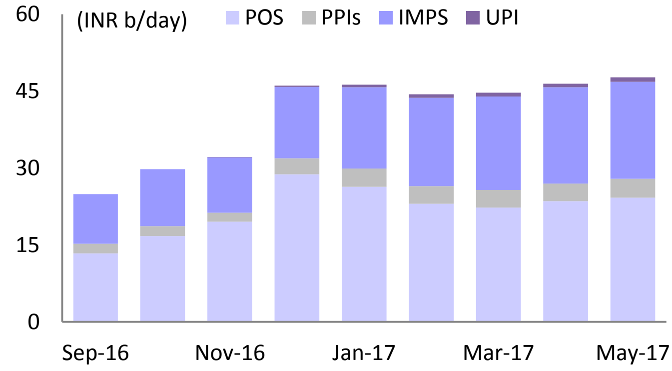
Moreover, the value of transactions per day has also been broadly unchanged at the higher level in the past six months *(Exhibit 9)*.

Exhibit 8: The amount per retail transaction has stabilized at lower level since demonetization…



Aggregate value of POS, PPIs, IMPS and UPI

Exhibit 9: …and value of transactions per day has also been broadly unchanged



Source: RBI, CEIC, MoSL

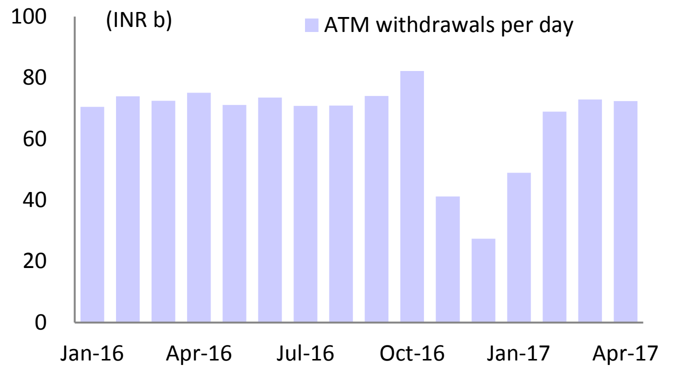
ATM cash withdrawals back to pre-demonetization level

Although the value and number of digital transactions have remained broadly unchanged over the past six months, the amount of cash withdrawals from Automated Teller Machines (ATMs) has converged with the pre-demonetization period.

With cash crunch easing, ATM cash withdrawal has moved back to INR72b per day, matching the pre-demonetization levels

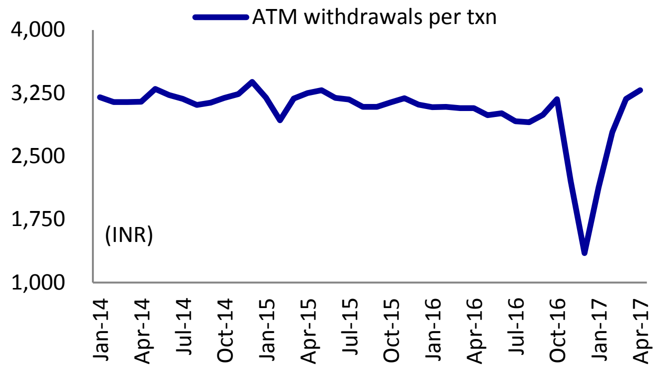
As high-denomination currency notes ceased to be legal tender, ATMs dried across the country. Not surprisingly then, the amount of ATM cash withdrawals fell from more than INR70b per day before demonetization to only INR27b in December 2016. Nevertheless, with cash crunch easing, ATM cash withdrawal has moved back to INR72b per day, matching the pre-demonetization levels *(Exhibit 10)*. Further, with policy makers capping the cash withdrawal at INR2,000 per transaction, after dipping towards INR1,348/txn, the amount of ATM cash withdrawal has crossed INR3,000/txn – similar to pre-demonetization level *(Exhibit 11)*.

Exhibit 10: ATM cash withdrawals per day back to pre-demonetization levels…



Using debit and credit cards

Exhibit 11: …same as the amount of ATM withdrawal per transaction



Source: RBI, MoSL

Is the share of non-cash transactions falling?

Although the amount of digital transactions almost doubled during the demonetization period, they have remained broadly unchanged in 2017, which questions the structural shift towards higher digitization in the economy

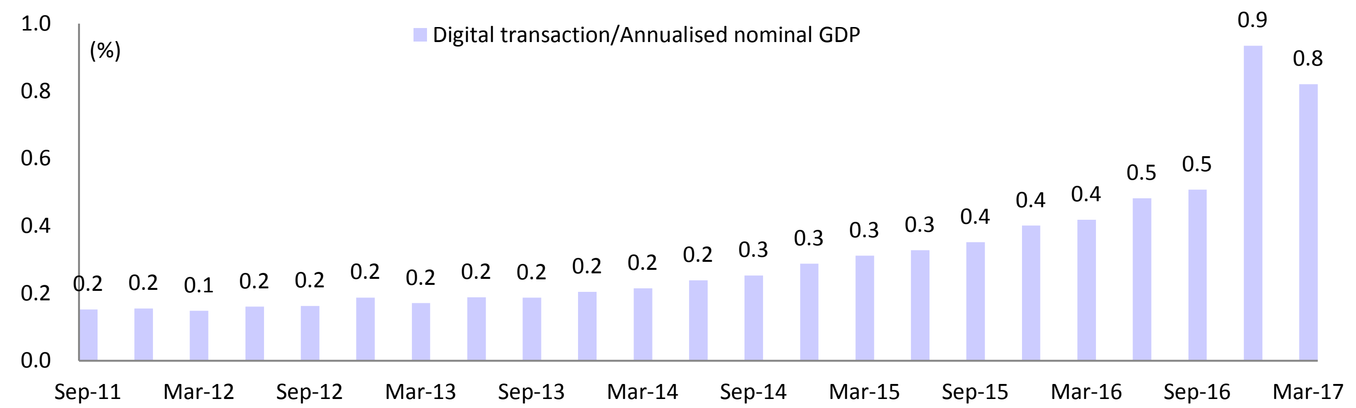
Ideally, with a movement as historic as demonetization, only a consistent increase in digital transactions would have pointed towards its success. Although the amount of digital transactions almost doubled during the demonetization period (our database is not exhaustive), they have remained broadly unchanged in 2017, which questions the structural shift towards higher digitization in the economy. With the economic activity actually rising every month in nominal terms (barring seasonal variation), the share of digital transactions – as measured by the three modes covered in our study – peaked out in December 2016.

Due to demonetization, the share of digital transactions increased from 0.51% in GDP in 2QFY17 to 0.93% in 3QFY17 but eased to 0.82% in 4QFY17

We look at the aggregate value of digital transactions by these three modes in comparison to nominal GDP *(Exhibit12)*. Due to demonetization, the share of digital transactions increased from 0.51% in GDP in 2QFY17 (quarter ending September 2016) to 0.93% in 3QFY17 but eased to 0.82% in 4QFY17.

One could argue that even 0.82% is much higher than what it would have been without demonetization; however, considering such low base and the extent of the historic movement, we believe that the fall in the share of digitization (using limited database) so early is not encouraging.

Exhibit 12: Share of retail digital payments* in final consumption expenditure (%)



* Aggregate value of POS, PPIs, IMPS and UPI

Source: RBI, CEIC, MoSL

Disclosures

This document has been prepared by Motilal Oswal Securities Limited (hereinafter referred to as Most) to provide information about the company (ies) and/sector(s), if any, covered in the report and may be distributed by it and/or its affiliated company(ies). This report is for personal information of the selected recipient/s and does not construe to be any investment, legal or taxation advice to you. This research report does not constitute an offer, invitation or inducement to invest in securities or other investments and Motilal Oswal Securities Limited (hereinafter referred as MOSt) is not soliciting any action based upon it. This report is not for public distribution and has been furnished to you solely for your general information and should not be reproduced or redistributed to any other person in any form. This report does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Before acting on any advice or recommendation in this material, investors should consider whether it is suitable for their particular circumstances and, if necessary, seek professional advice. The price and value of the investments referred to in this material and the income from them may go down as well as up, and investors may realize losses on any investments. Past performance is not a guide for future performance, future returns are not guaranteed and a loss of original capital may occur.

MOSt and its affiliates are a full-service, integrated investment banking, investment management, brokerage and financing group. We and our affiliates have investment banking and other business relationships with a some companies covered by our Research Department. Our research professionals may provide input into our investment banking and other business selection processes. Investors should assume that MOSt and/or its affiliates are seeking or will seek investment banking or other business from the company or companies that are the subject of this material and that the research professionals who were involved in preparing this material may educate investors on investments in such business . The research professionals responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting information. Our research professionals are paid on twin parameters of performance & profitability of MOSt.

MOSt generally prohibits its analysts, persons reporting to analysts, and members of their households from maintaining a financial interest in the securities or derivatives of any companies that the analysts cover. Additionally, MOSt generally prohibits its analysts and persons reporting to analysts from serving as an officer, director, or advisory board member of any companies that the analysts cover. Our salespeople, traders, and other professionals or affiliates may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed herein, and our proprietary trading and investing businesses may make investment decisions that are inconsistent with the recommendations expressed herein. In reviewing these materials, you should be aware that any or all of the foregoing among other things, may give rise to real or potential conflicts of interest. MOSt and its affiliated company(ies), their directors and employees and their relatives may; (a) from time to time, have a long or short position in, act as principal in, and buy or sell the securities or derivatives thereof of companies mentioned herein. (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) discussed herein or act as an advisor or lender/borrower to such company(ies) or may have any other potential conflict of interests with respect to any recommendation and other related information and opinions.; however the same shall have no bearing whatsoever on the specific recommendations made by the analyst(s), as the recommendations made by the analyst(s) are completely independent of the views of the affiliates of MOSt even though there might exist an inherent conflict of interest in some of the stocks mentioned in the research report

Reports based on technical and derivative analysis center on studying charts company's price movement, outstanding positions and trading volume, as opposed to focusing on a company's fundamentals and, as such, may not match with a report on a company's fundamental analysis. In addition MOST has different business segments / Divisions with independent research separated by Chinese walls catering to different set of customers having various objectives, risk profiles, investment horizon, etc, and therefore may at times have different contrary views on stocks sectors and markets.
Unauthorized disclosure, use, dissemination or copying (either whole or partial) of this information, is prohibited. The person accessing this information specifically agrees to exempt MOSt or any of its affiliates or employees from, any and all responsibility/liability arising from such misuse and agrees not to hold MOSt or any of its affiliates or employees responsible for any such misuse and further agrees to hold MOSt or any of its affiliates or employees free and harmless from all losses, costs, damages, expenses that may be suffered by the person accessing this information due to any errors and delays. The information contained herein is based on publicly available data or other sources believed to be reliable. Any statements contained in this report attributed to a third party represent MOSt's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party. This Report is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. While we would endeavor to update the information herein on reasonable basis, MOSt and/or its affiliates are under no obligation to update the information. Also there may be regulatory, compliance, or other reasons that may prevent MOSt and/or its affiliates from doing so. MOSt or any of its affiliates or employees shall not be in any way responsible and liable for any loss or damage that may arise to any person from any inadvertent error in the information contained in this report. MOSt or any of its affiliates or employees do not provide, at any time, any express or implied warranty of any kind, regarding any matter pertaining to this report, including without limitation the implied warranties of merchantability, fitness for a particular purpose, and non-infringement. The recipients of this report should rely on their own investigations.

This report is intended for distribution to institutional investors. Recipients who are not institutional investors should seek advice of their independent financial advisor prior to taking any investment decision based on this report or for any necessary explanation of its contents.

Most and it's associates may have managed or co-managed public offering of securities, may have received compensation for investment banking or merchant banking or brokerage services, may have received any compensation for products or services other than investment banking or merchant banking or brokerage services from the subject company in the past 12 months.
Most and it's associates have not received any compensation or other benefits from the subject company or third party in connection with the research report.
Subject Company may have been a client of Most or its associates during twelve months preceding the date of distribution of the research report
MOSt and/or its affiliates and/or employees may have interests/positions, financial or otherwise of over 1 % at the end of the month immediately preceding the date of publication of the research in the securities mentioned in this report. To enhance transparency, MOSt has incorporated a Disclosure of Interest Statement in this document. This should, however, not be treated as endorsement of the views expressed in the report.
Motilal Oswal Securities Limited is registered as a Research Analyst under SEBI (Research Analyst) Regulations, 2014. SEBI Reg. No. INH000000412

Pending Regulatory inspections against Motilal Oswal Securities Limited:
SEBI pursuant to a complaint from client Shri C.R. Mohanraj alleging unauthorized trading, issued a letter dated 29th April 2014 to MOSL notifying appointment of an Adjudicating Officer as per SEBI regulations to hold inquiry and adjudge violation of SEBI Regulations; MOSL replied to the Show Cause Notice whereby SEBI granted us an opportunity of Inspection of Documents. Since all the documents requested by us were not covered we have requested to SEBI vide our letter dated June 23, 2015 to provide pending list of documents for inspection.
List of associate companies of Motilal Oswal Securities Limited -Click here to access detailed report

Analyst Certification

The views expressed in this research report accurately reflect the personal views of the analyst(s) about the subject securities or issues, and no part of the compensation of the research analyst(s) was, is, or will be directly or indirectly related to the specific recommendations and views expressed by research analyst(s) in this report. The research analysts, strategists, or research associates principally responsible for preparation of MOSt research receive compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors and firm revenues

Disclosure of Interest Statement	Companies where there is interest
▪ Analyst ownership of the stock	No
▪ Served as an officer, director or employee -	No

A graph of daily closing prices of securities is available at www.nseindia.com and http://economictimes.indiatimes.com/markets/stocks/stock-quotes

Regional Disclosures (outside India)

This report is not directed or intended for distribution to or use by any person or entity resident in a state, country or any jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject MOSt & its group companies to registration or licensing requirements within such jurisdictions.
For Hong Kong: This report is distributed in Hong Kong by Motilal Oswal capital Markets (Hong Kong) Private Limited, a licensed corporation (CE AYY-301) licensed and regulated by the Hong Kong Securities and Futures Commission (SFC) pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) "SFO". As per SEBI (Research Analyst Regulations) 2014 Motilal Oswal Securities (SEBI Reg No. INH000000412) has an agreement with Motilal Oswal capital Markets (Hong Kong) Private Limited for distribution of research report in Kong Kong. This report is intended for distribution only to "Professional Investors" as defined in Part I of Schedule 1 to SFO. Any investment or investment activity to which this document relates is only available to professional investor and will be engaged only with professional investors." Nothing here is an offer or solicitation of these securities, products and services in any jurisdiction where their offer or sale is not qualified or exempt from registration. The Indian Analyst(s) who compile this report is/are not located in Hong Kong & are not conducting Research Analysis in Hong Kong.

For U.S.

Motilal Oswal Securities Limited (MOSL) is not a registered broker - dealer under the U.S. Securities Exchange Act of 1934, as amended (the"1934 act") and under applicable state laws in the United States. In addition MOSL is not a registered investment adviser under the U.S. Investment Advisers Act of 1940, as amended (the "Advisers Act" and together with the 1934 Act, the "Acts), and under applicable state laws in the United States. Accordingly, in the absence of specific exemption under the Acts, any brokerage and investment services provided by MOSL, including the products and services described herein are not available to or intended for U.S. persons.
This report is intended for distribution only to "Major Institutional Investors" as defined by Rule 15a-6(b)(4) of the Exchange Act and interpretations thereof by SEC (henceforth referred to as "major institutional investors"). This document must not be acted on or relied on by persons who are not major institutional investors. Any investment or investment activity to which this document relates is only available to major institutional investors and will be engaged in only with major institutional investors. In reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act") and interpretations thereof by the U.S. Securities and Exchange Commission ("SEC") in order to conduct business with Institutional Investors based in the U.S., MOSL has entered into a chaperoning agreement with a U.S. registered broker-dealer, Motilal Oswal Securities International Private Limited. ("MOSIPL"). Any business interaction pursuant to this report will have to be executed within the provisions of this chaperoning agreement.
The Research Analysts contributing to the report may not be registered /qualified as research analyst with FINRA. Such research analyst may not be associated persons of the U.S. registered broker-dealer, MOSIPL, and therefore, may not be subject to NASD rule 2711 and NYSE Rule 472 restrictions on communication with a subject company, public appearances and trading securities held by a research analyst account.

For Singapore

Motilal Oswal Capital Markets Singapore Pte Limited is acting as an exempt financial advisor under section 23(1)(f) of the Financial Advisers Act(FAA) read with regulation 17(1)(d) of the Financial Advisors Regulations and is a subsidiary of Motilal Oswal Securities Limited in India. This research is distributed in Singapore by Motilal Oswal Capital Markets Singapore Pte Limited and it is only directed in Singapore to accredited investors, as defined in the Financial Advisers Regulations and the Securities and Futures Act (Chapter 289), as amended from time to time.
In respect of any matter arising from or in connection with the research you could contact the following representatives of Motilal Oswal Capital Markets Singapore Pte Limited:

Varun Kumar
Varun.kumar@motilaloswal.com
Contact : (+65) 68189232
Office Address:21 (Suite 31),16 Collyer Quay,Singapore 04931

Motilal Oswal Securities Ltd
Motilal Oswal Tower, Level 9, Sayani Road, Prabhadevi, Mumbai 400 025
Phone: +91 22 3982 5500 E-mail: reports@motilaloswal.com